

Amendments to the Drawings

A corrected Fig. 43 is enclosed.

REMARKS/ARGUMENTS

In response to the Examiner's first Office Action of November 15, 2005 the Applicant respectfully submits the accompanying Amendment to the specification, drawings and claims, and the below Remarks directed thereto.

Regarding Amendment

In the Amendment:

page 13, line 2, page 15, line 2, page 17, line 29, page 18, line 17 and page 22, line 19 of the present specification are amended to omit reference to Fig. 17C;

Fig. 43 is amended to include the reference sign "500", as is described at page 31, lines 23-24 of the present specification;

independent claim 1 is amended to clarify that the recited spring portion is integrally formed within the material of the printed circuit board and is arranged with edge electrical connections of the printed circuit board. Support for this amendment can be found at page 23, line 21-page 24, line 22 of the present specification;

dependent claim 2 is amended to conform with amended claim 1;

dependent claim 3 is amended to replace "the other end" with --an opposite end-- to clarify that the second and third printed circuit boards are arranged at opposite ends of the first printed circuit board;

dependent claim 7 is amended to replace "the electrical connector" with --an electrical connector--, and to clarify that at least two fluid distribution members are provided, each for one of the printhead integrated circuits. Support for this amendment can be found at page 7, lines 7-13 and page 8, lines 13-33 of the present specification; and

dependent claims 4-6 are unchanged.

It is respectfully submitted that the above amendments do not add new matter to the present application.

Regarding Allowable Subject Matter

The Applicant appreciates the Examiner's indication of the allowability of the subject matter of pending claims 5 and 6 under the conditions stated in the Office Action.

Regarding Drawing Objections

Regarding Fig. 17C

It is respectfully submitted that the above-described amendments to omit reference to Fig. 17C in the present specification, provides the correction required by the Examiner.

Regarding reference sign "500"

It is respectfully submitted that the above-described amendment to Fig. 43 to insert the reference sign "500", provides the correction required by the Examiner.

Regarding Claim Objections

Regarding "fluid distribution member"

It is respectfully submitted that the above-described amendment to claim 7 to clarify that at least two fluid distribution members are provided, each for one of the printhead integrated circuits, provides the correction required by the Examiner, as this clarifies that the claimed fluid distribution members refer to the disclosed fluid distribution stacks 500 (see page 7, lines 7-13 and page 8, lines 13-33 of the present specification).

Regarding "the other end"

It is respectfully submitted that the above-described amendment to claim 3 to replace "the other end" with --an opposite end--, provides sufficient antecedent basis for this term in the claim.

Regarding "the electrical connector"

It is respectfully submitted that the above-described amendment to claim 7 to replace "the electrical connector" with --an electrical connector--, provides sufficient antecedent basis for this term in the claim.

Regarding "the fluid distribution members"

It is respectfully submitted that the above-described amendment to claim 7 to clarify that at least two fluid distribution members are provided at lines 2 and 3 of claim 7, provides sufficient antecedent basis for this term later in the claim.

Regarding 35 USC 102(b) Rejections

It is respectfully submitted that the subject matter of amended independent claim 1 is not disclosed by Cannon (US 6,911,811), for at least the following reasons.

In the present invention, the printed circuit board of the connector arrangement 125 has a body portion 125e having regions 125b and 125c, for extension into the casing 20, and a spring portion 125d, which has the region 125c thereon. The region 125c is an edge termination region having edge electrical connections. The purpose of the spring portion to maintain these terminal connections in the event of the casing expanding and contracting due to temperature variations during printing. As is clearly described and illustrated in Figs. 38A and 38B of the present application, the spring portion is integrally formed within the material body portion 125e of the printed circuit board of the connector arrangement 125 (see also page 23, line 21-page 24, line 22 of the present specification).

One of ordinary skill in the art of printed circuit boards understands that a printed circuit board is a thin plate or card of material on which semiconductor chips and other electronic components and connections are placed. Therefore, it is understood by one of ordinary skill in the art that the recited spring portion of amended independent claim 1 is integrally formed within the printed circuit board material, and is not a separate component attached to the printed circuit board.

On the other hand, Cannon discloses a test probe 10 having a printed circuit board 120 on which the probe circuitry 124 is placed. A contact spring 130 is electrically connected to an input port 125 of the printed circuit board and is used to contact with a probe pin 160 to test a circuit. A compression spring 180 is housed within the barrel 112,114,115 of the test probe to bear against the printed circuit board at decompression tab 184 and is used to move the contact spring into and out of contact with the probe pin (see col. 3, line 23-col. 4, line 22 and Figs. 3 and 7A of Cannon).

Thus, in Cannon the contact spring is merely a component attached to the printed circuit board and the compression spring is merely a component which bears against the printed circuit board. Cannon does not disclose, nor suggests, a spring portion of a printed circuit board which is integrally formed within the material of the printed circuit board, let alone such a spring portion being arranged with edge electrical connections of the printed circuit board, as is required by amended independent claim 1.

Thus, the subject matter of amended independent claim 1, and claims 2-7 dependent therefrom, is not disclosed or suggested by Cannon.

Regarding 35 USC 103(a) Rejections

It is respectfully submitted that the subject matter of dependent claims 2-4 and 7 is not taught or suggested by Cannon in view of either Tomura et al. (US 6,771,992) or Silverbrook et al. (US 6,439,908), for at least the following reasons.

Tomura merely discloses infrared modules 200A,200B of a portable telephone having leaf spring portions 218a,219b formed in sheet-metal cases 218,219 for connection to ground patterns on a printed-circuit board 46 (see col. lines 22-46 of Tomura). Tomura does not teach or suggest forming such leaf springs within the material of the printed-circuit board.

Silverbrook merely discloses linearly arranging a plurality of printhead modules 12 having printhead chips 18 thereon along a reservoir molding 32 of a printhead assembly. Further, contrary to the Examiner's contentions, the printhead chips 18 of Silverbrook are neither printed circuit boards, because they are microelectromechanical chips produced using semiconductor and lithographic techniques, nor linearly aligned, because they are diagonally overlapped (see col. 2, line 9-col. 3, line 55 of Silverbrook).

Thus, neither Tomura nor Silverbrook make up for the above-discussed deficiencies in Cannon with respect to amended independent claim 1:

Thus, the subject matter of amended independent claim 1, and claims 2-7 dependent therefrom, is not disclosed or suggested by Cannon either taken alone or in combination with Tomura and/or Silverbrook.

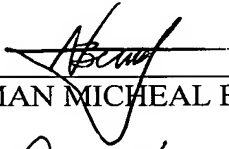
It is respectfully submitted that all of the Examiner's objections and rejections have been traversed. Accordingly, it is submitted that the present application is in condition for allowance and reconsideration of the present application is respectfully requested.

Very respectfully,

Applicants:



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